

Limitations of using Billing Data and the ICD-9-CM Classification for Detecting Adverse Drug Events

Billing data can be a helpful resource for conducting general surveillance of trends in adverse events, especially when used in conjunction with other clinical data sources like incident reports and trigger systems. But billing data have limitations that are important to be aware of.

- Billing data, and the ICD-9-CM codes they include, do not distinguish between adverse events that occurred prior to current hospitalization and those that occurred during current hospitalization.
- ICD-9-CM codes do not indicate degree of harm to the patient.
- ICD-9-CM codes do not capture near misses.
- Caution should be used when making comparisons among facilities due to coding variation.
- Coding may be incomplete if patient records include a limited number of diagnosis codes. For example, the Utah Department of Health Hospital Discharge Database (HDD) captures up to nine diagnosis codes. However, some Utah hospitals record more than nine diagnosis codes. The HDD includes only the first nine diagnosis codes for these records.
- Only conditions that physicians document in patient charts can be coded. Conditions in pharmacists', nurses' or other health care professionals' notes are not coded.
- Because some ICD-9-CM E-codes, which document conditions related to an external cause of injury, are not directly related to reimbursement, health care professionals have little incentive to report these codes.
- Currently, ICD-9-CM codes usually are assigned after the patient is discharged from the hospital. Hence, ICD-9-CM codes provide retrospective, not real-time, patient information.